

AMENDMENT UNDER 37 C.F.R. § 1.111
Appln. No. 10/031,872
Docket No. Q68112

REMARKS

Claims 19-33 are all the claims pending in the application. Claims 20 and 33 have been withdrawn from consideration.

As an initial matter, the Examiner has indicated that the drawings filed June 28, 2004 are approved, but are not acceptable because they were submitted by facsimile. Accordingly, Applicants have re-submitted these drawings.

The Examiner has objected to the specification and claims, alleging several minor informalities. In response, Applicant has amended the specification and claims in the manner indicated by the Examiner.

Claim Rejections Under 35 U.S.C. § 112

Claim 31 is rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 19 and 21-32 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

In response, Applicant has amended the claims in the manner indicated by the Examiner.

Claim Rejections Under 35 U.S.C. § 103

Claims 19, 21, 22, 25, 26, and 29¹ are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Heyring et al. (WO 95/23076) (Heyring '076") in view of Sakai (US 5,486,016). Claims 23, 24, 27, 28, and 30-32 are rejected under 35 U.S.C. § 103(a) as allegedly

¹ It appears that the Examiner intended to reject claim 29 over Heyring '076 in view of Sakai, and in further view of Weiss because claim 29 depends from claim 23.

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AMENDMENTS TO THE DRAWINGS

The drawings sheets filed by facsimile on June 28, 2004 are resubmitted herewith.

Attachment: Ten (10) Replacement Sheets

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being unpatentable over Heyring '076 in view of Sakai, and in further view of Weiss (US 6,267,387).

Claim 19

As an initial matter, Applicant has amended independent claim 19 to recite that corresponding vertical force is in a same direction as the vertical force to which the associated wheel is subjected. Although Applicant believes that this relationship between the vertical forces would have been understood by one of ordinary skill in view of the deleted recitation “analogous to,” Applicant has amended claim 19 to use language that is believed to be preferred by this Examiner.

With respect to independent claim 19, Applicant respectfully traverses the rejection at least because there is no reasonable combination of Heyring '076 and Sakai that reasonably teaches or suggests all of the claim's recitations. For example, there is no combination of Heyring '076 and Sakai that reasonably teaches or suggests the claimed anti-roll and anti-pitch device having a central resilient element and two central actuating elements, in which one of the central actuating elements transmits a transmitting force from a wheel transforming element to another wheel transforming element, the other wheel transforming element transmits the transmitting force to a wheel actuating element associated with a wheel diagonally opposed to a wheel that has been subjected to a vertical force; and the wheel actuating element provides a corresponding vertical force, which is in a same direction as a vertical force to which the diagonally opposed wheel has been subjected.

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In the previous response, Applicant argued that there is no suggestion or motivation to modify Heyring's suspension system so that the ram 4 is provided with a vertical force, which is *analogous to* the corresponding vertical force of ram 1. *See* Heyring at Figs. 4 & 5. Instead, in accordance with Heyring's disclosure, the rod portion 18a, piston 18d, and chamber 13a provide conduits 9 and 12 with opposite fluid flows, and therefore *opposite forces*.

In the response to the arguments section of the Office Action dated September 24, 2004, the Examiner was not convinced by this argument, indicating that claim 19 "does not define the directions of the forces applied to the wheel actuating elements." Accordingly, as is discussed above, Applicant has amended claim 19 to explicitly recite that the corresponding vertical force is in a *same direction* as the vertical force to which the associated wheel is subjected.

In view of this amendment, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of independent claim 19. As previously discussed, although secondary reference Sakai appears to disclose that a corresponding force in a same direction is provided to diagonal conduits (Sakai at Fig. 10), Sakai does not teach or suggest any modification to Heyring's structure that would allow the ram 1 and ram 4 to be subjected to forces in a same direction. Specifically, Applicant sees no motivation or suggestion to modify Heyring's chambers so that the conduits 9 and 12 would be connected to diagonally opposite rams. In fact, if Heyring were modified in this way, then the vertical forces provided to the diagonally opposite rams would be opposite, and not forces in a *same direction*.

As such, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 19.

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Claims 21, 22, 25, and 26

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 21, 22, 25, and 26 at least because of their dependency from claim 19.

Claims 23 and 24

With respect to dependent claim 23 and 24, Applicant respectfully requests that the Examiner withdraw the rejection at least because of their dependency from claim 19 and because Applicant sees no combination of Heyring '076, Sakai, and, Weiss that would reasonably teach or suggest the claimed invention including two double pistons, each double piston including a larger diameter piston provided in the central cylinder and a smaller diameter piston provided in one of the side cylinders, in which the central resilient element opposes the movement of each of the larger diameter pistons within a central cavity.

As an initial matter, a *non-limiting* embodiment of the invention shown in Figs. 23 of the original specification is described briefly. A central hydraulic device (CHD) includes a central cylinder body 52 with open bases that is aligned at its bases with cylindrical end bodies 53 of smaller diameter, each having one closed base end 54. The arrangement of aligned cylindrical bodies forms a suitable frame for a pair of double equal pistons 55, each formed by a main piston 55A rigidly connected to a minor piston 55B through a shank. The main pistons 55A are arranged within the central cylindrical body 52, while the minor pistons 55B are arranged within the cylindrical end bodies 53. A central chamber 56, which is formed between free faces of the main pistons 55A and 55B, and the central cylinder body 52, is filled with a gassy fluid that is introduced through the mouth M'. Two intermediate chambers 57, 58, which are formed

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between the facing faces of the pistons 55A, 55B, are filled with a hydraulic fluid. Two end chambers 59, 60, which are delimited by the minor pistons 55B and base ends 54, are also filled with hydraulic fluid.

The hydraulic suspension system of Fig. 5 of Heyring '076 is described briefly. The suspension system has a central, cylindrical chamber 21 that includes an elastic means that can be either gassy or mechanical, and two end bodies. The chamber 21 and end bodies have the same diameter. Inside the chamber and end bodies are two equal diameter double pistons 18, 19. The pistons 18c, 19c are provided inside the chamber 21 and the pistons 18b, 19b are provided in the end bodies. Shanks 18b, 19b traverse the pistons 18c, 18d and 19c, 19d, respectively. Tails 18a, 19a of the shanks extend through joints provided in the ends of the end bodies. An axial duct 21d is also provided in the central chamber 21. The duct communicates between chambers 21b, 21c, which are formed between the pistons 18c, 19c and the ends of the chamber 21. A central chamber 21a communicates with a mouth 22a, and the axial duct 21d communicates with a mouth 22b. In the end bodies are provided external chambers 14, 17, which are connected to the ducts 9a, 11a and internal chambers 15, 16 that are connected to the ducts 10a, 12a.

The pressure compensation accumulator (PCA) of Figs. 1 and 10 of Sakai is described briefly. The PCA has a body 116 with two adjacent cylinders 121 of equal size. Two equal pistons 122 are displaced simultaneously since they are connected by a plate 128. Because the shock absorbing device only associates two diagonal wheels, two of these PCAs are need to provide an association for a four wheeled vehicle, as shown in Fig. 10.

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In view of the discussion above, Heyring's suspension system is deficient at least because it does not include inner pistons larger than outer pistons. Moreover, Sakai has no relationship with this embodiment of the claimed invention, except that wheels are associated diagonally. Sakai does not disclose the use of a two double pistons with different diameters.

Therefore the Examiner looks to the wheel suspension of Weiss in an attempt to make up for this deficiency. It is the Examiner's position that it would have been obvious to modify the suspension system of Heyring '076 and Sakai to use Weiss's center piston 48 coupled to side pistons 46, 47 (*See* Weiss at Figs. 9 & 10) in order to tailor performance to a particular application and because "a mere change in size is considered within the level of ordinary skill in the art." *See* Office Action dated September 24, 2004, at page 5.

However, Weiss does not disclose the use of two double pistons, but merely discloses a single central piston with two side pistons. Accordingly, there is no reasonable combination based on the disclosure of Weiss which would include a central resilient element that opposes the movement of each of two larger diameter pistons within a central cavity because there is no disclosure of two larger diameter pistons.

Claims 27-32

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 27-32 at least because of their dependency from claim 19, as well as from one of claims 23 and 24.

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Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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Date: December 27, 2004